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WHAT IS CLAIMED IS:

- 1. A semiconductor device fabricating method comprising the steps of:
- 5 carrying a plurality of wafers each having a plurality of chips into a die bonder and placing said plurality of wafers in said die bonder;

bonding together a plurality of chips, which is taken out from said plurality of wafers respectively and superposed in a stack, by each bonding layer to form a chip assembly; and

bonding said chip assembly to a die pad by another bonding layer.

- 2. The semiconductor device fabricating method according to claim 1 further comprising the step of stacking one or a plurality of chips on said chip assembly.
- 3. The semiconductor device fabricating method 20 according to claim 1 further comprising the step of stacking one or a plurality of chips on a back surface opposite a surface of said die pad to which said chip assembly is bonded.
- 4. The semiconductor device fabricating method according to claim 1, wherein said die bonder includes a preparatory stage having a support surface on which the chip is placed, and said support surface inhibits the adhesion of said bonding layer to said support surface.

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5. A semiconductor device fabricated by the semiconductor device fabricating method according to claim

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- 6. A semiconductor device fabricating apparatus comprising:
- a plurality of wafer holders for holding a plurality of wafers, respectively;
 - a chip conveying device for conveying one chip from each of said plurality of wafers held by said plurality of wafer holders;
- a preparatory stage having a support surface on which chips conveyed from said plurality of wafers by said chip conveying device are stacked up and are bonded together by bonding layers to form a chip assembly;
- a chip assembly conveying device for conveying said

 15 chip assembly from said preparatory stage onto a die pad;

 and
 - a stage on which said chip assembly is bonded to said die pad by a bonding layer.
- 7. The semiconductor device fabricating apparatus according to claim 6, wherein said support surface of said preparatory stage inhibits the adhesion of said bonding layer to said support surface.